

IN THE CLAIMS:

1. (Currently Amended) A method comprising:

rotating a substrate at a predefined speed, the substrate having a first surface;
spray coating the first surface of the substrate with a negative-tone photoresist-solvent solution at an angle to the first surface to obtain coverage of deep etched features, the negative-tone photoresist to solvent ratio being in the range of one to three and one to five and a half and having a viscosity of between one and three centipoises; and
moving a spray nozzle across the diameter of the first surface of the substrate at varying speeds to achieve a negative-tone photoresist coat of substantially the same thickness throughout the first surface.

2. (Original) The method of claim 1 further comprising:

priming the first surface of the substrate with a primer having a water contact angle between forty and fifty degrees.

3. (Original) The method of claim 2 wherein, once primed, the photoresist can be sprayed in environments having relative humidity levels as high as sixty percent.

4. (Original) The method of claim 1 wherein the negative-tone photoresist is a cyclohexanone-based resist and the solvent is methyl-ethyl-ketone.

5. (Currently Amended) A method comprising:

rotating a substrate at a predefined speed, the substrate having a first surface;
spray coating the first surface of the substrate with a positive-tone photoresist-solvent solution at an angle to the first surface to obtain coverage of deep etched features, the

positive-tone photoresist to solvent ratio being in the range of one to five and one to seven and having a viscosity of between one and three centipoises; and

moving a spray nozzle across the diameter of the first surface of the substrate at varying speeds to achieve a positive-tone photoresist coat of substantially the same thickness throughout the first surface.

6. (Original) The method of claim 5 further comprising:

priming the first surface of the substrate with a primer having a water contact angle between forty and fifty degrees.

7. (Original) The method of claim 6 wherein, once primed, the photoresist can be sprayed in environments having relative humidity levels as high as sixty percent.

8. (Original) The method of claim 5 wherein the positive-tone photoresist is a propylene glycol monomethyl ether acetate-based resist and the solvent is methyl-ethyl-ketone.

9. (Original) The method of claim 5 wherein the deep etched features are deeper than 20 μm .

10. (Original) The method of claim 5 wherein the deep etched features are deeper than 200 μm .

11. (Currently Amended) A method for coating photoresist on a substrate having deep features comprising:

cleaning the substrate by immersing it into a cleaning solution;
rinsing the substrate in ultrapure water;

thoroughly drying the substrate;
priming the substrate by immersing it into a priming solution, the priming solution having a water contact angle of between forty and fifty degrees;[.]
rinsing the substrate in ultrapure water to remove excess priming solution;
thoroughly drying the substrate; and
spray coating the substrate with a photoresist, wherein the photoresist is sprayed at an angle to the substrate surface.

12. (Original) The method of claim 11 wherein
the substrate is immersed into a cleaning solution of peroxide-sulfuric for five to fifteen minutes, and
the substrate is rinsed in ultrapure water for five to ten minutes.
13. (Original) The method of claim 11 wherein the deep features are deeper than 20 μm .
14. (Original) The method of claim 11 wherein the deep features are deeper than 200 μm .
15. (Original) The method of claim 11 wherein the priming solution has a water contact angle of between forty and fifty degrees.
16. (Original) The method of claim 11 wherein, once primed, the photoresist can be sprayed in environments having relative humidity levels as high as sixty percent.

17. (Original) The method of claim 11 wherein the photoresist is a negative-tone photoresist that is diluted with a solvent, the negative-tone photoresist to solvent ratio being in the range of one to three and one to five and a half.

18. (Original) The method of claim 11 wherein the photoresist is a positive-tone photoresist that is diluted with a solvent, the positive-tone photoresist to solvent ratio being in the range of one to five and one to seven.